

ABSTRACT

Disclosed are a GaN based compound semiconductor light emitting diode (LED) and a manufacturing method therefore. In the LED, a multi-layer epitaxial structure including an active layer is formed over a substrate, and a light transmissive impurity doped metal oxide which may be formed over a Ni/Au layer is used as a light extraction layer while the Ni/Au layer is taken as an ohmic contact layer between the light extraction layer and the multi-layer epitaxial structure. Then, an n-type metal electrode is disposed over an exposing region of an n-type semiconductor and a p-type metal electrode over the light extraction layer. The LED is thus formed.